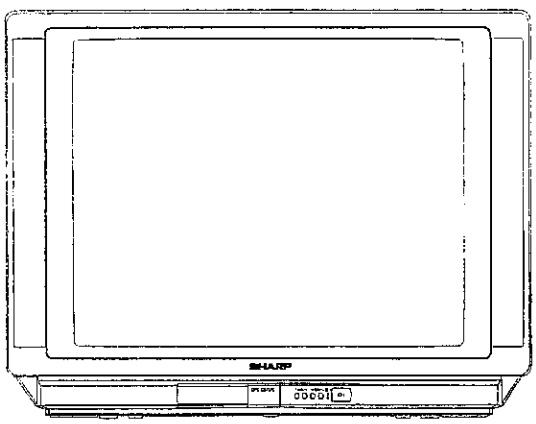
SHARP SERVICE MANUAL

SEKC70CS05S/2



ELECTRICAL INFORMATION

CS-CHASSIS

PAL SYSTEM COLOUR TELEVISION

MODELS 63CS-05S
70CS-05S

In the interests of user safety (required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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SHARP CORPORATION

ELECTRICAL SPECIFICATIONS

Power Input.....220-240 VAC 50Hz

Power Consumption (at 240 VAC)

Normal operating.....120 Wmax.
Stand-by Operating..... 3Wmax.

Audio Power

Output Rating.....10W(MPO)x2
Speaker.....6cm. x 13 cm. (elliptic)
Voice coil impedance.....8 ohms

Convergence.....Self Converging System

Focus.....Bi-Potencial Electrostatic
Sweep.....Magnetic

Intermediate Frequencies

Picture IF Frequency 38.9MHz
Sound IF Carrier Frequency
FM Stereo.....33.16/33MHz
FM Mono 33.05MHz
Colour Sub-Carrier
Frequency.....34.47 MHz (Nominal)

Aerial Input Impedance

VHF/UHF .....75 ohm Unbalanced
Tuning Ranges .....48.25MHz to 855.25MHz
CATV Special Channels

White Level

Set brigthness control to get total picture tube cathode current of 600 microampere under no signal condition. Maximun necessary correction of each picture tube cathode current to get 8900 degrees K-20MPCD screen temperature should not exceed 15% of its original value.
X=0.290 Y=0.284

Specifications are subject to change without prior notice

WARNING

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis.
To prevent electric shock, do not remove cover. No user-serviceable parts inside. Refer servicing to qualified service personnel.

IMPORTANT SERVICE NOTES

Maintenance and repair of this receiver should be done by qualified service personnel only.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by connecting a 10 k ohm Resistor in series with an insulated wire (such as test probe) between picture tube ground tag and high voltage lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely.

X-RAY

This receiver is designed so that any X-Ray radiation is kept to an absolute minimun. Since certain malfunctions ar servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:

1. When repairing the circuit, be sure not to increase the high voltage to more than 30.0 kV, (at beam 1000 μA) for the set.
2. To keep the set in a normal operation, be sure to make it function on 26kV± 1.5kV (at beam 1300 μA) in the case of the set. The set has been factory Adjusted to the above-mentioned high voltage.
   If there is a possibility that high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.
3. Do not substitute a picture tube with unauthorized types and/or brands which may cause excess X-ray radiation.

BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that harware is not logged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating fishpapers, cabinet backs, adjustament and compartament covers or shields, insolation resistor-capacity networks, mechanical insulators etc.

PREVIOUS NOTES

Since most of the power amplifiers of this TV, works in switching mode (class D) a general explanation of this system is as follows.

The system is based on moving the duty cycle of a square wave according to a modulater wave of any shape as is shown in fig. 1:

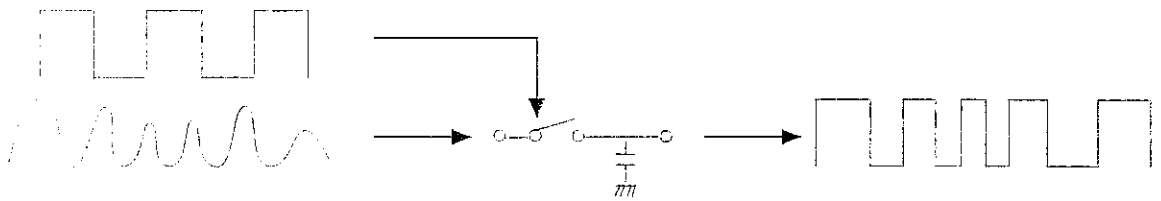


Fig. 1

The way of working the signal is known as PWM (Pulse With Modulation).
After the modulated signal is amplified, a convertion to the original signal shape is made by using adequate low pass filters (LC filters), fig. 2:

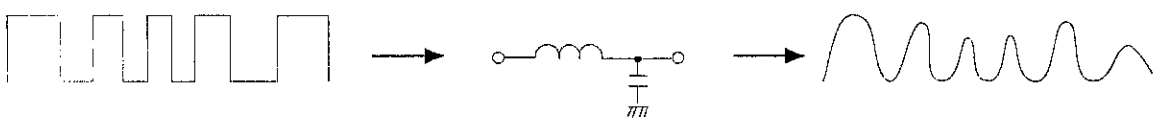


Fig. 2

VERTICAL AMPLIFIER

Horizontal pulses are modulated (PWM mode) with the vertical saw-tooth signal (IC501A) to get the switching modulated signal, once it is amplified it is driven out througth the low pass filter (L501) to the deflection coils.

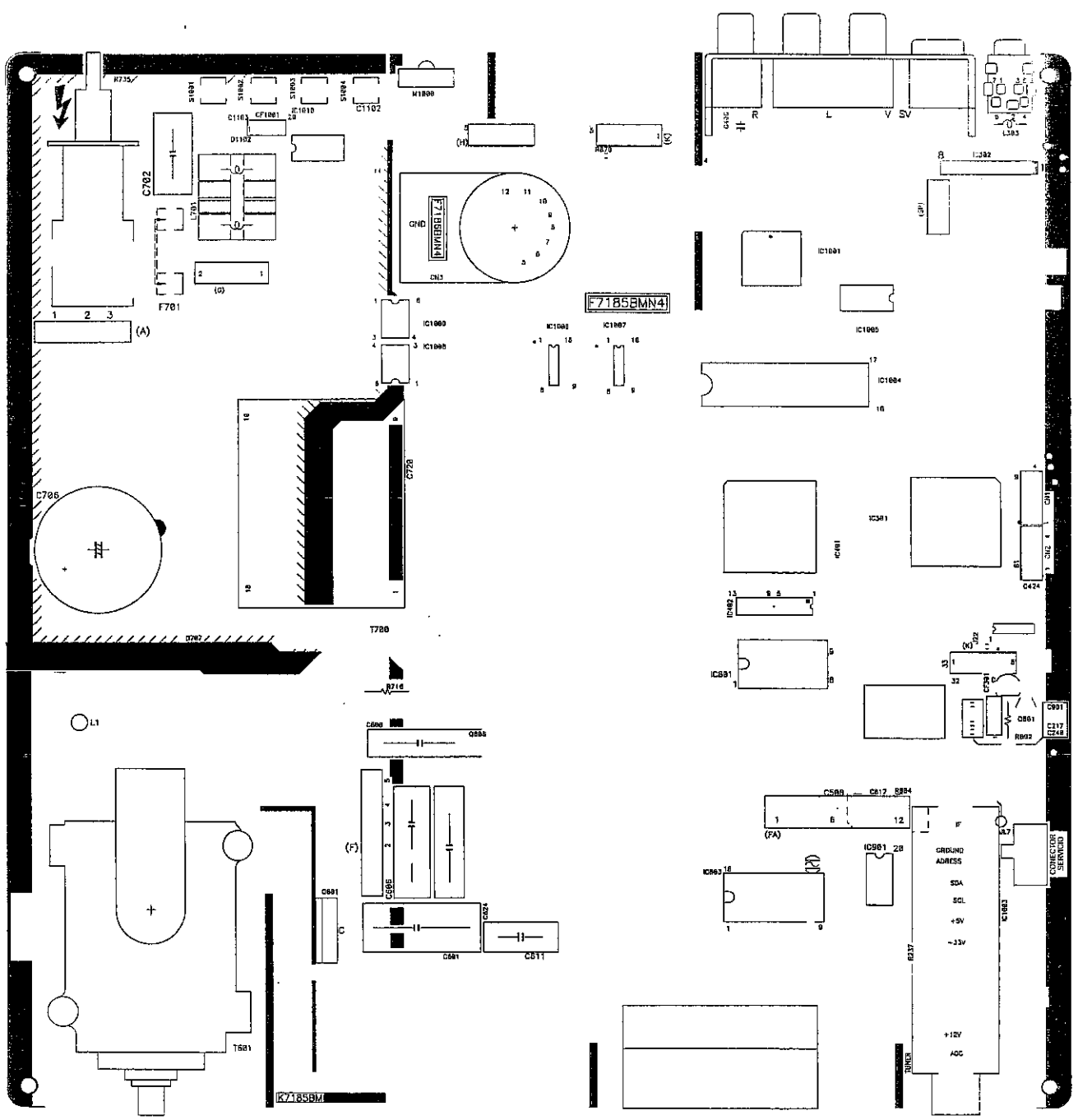
E/W AMPLIFIER

As in the above case, the horizontal pulses are modulated with the E/W signal generated by the IC201. This is done by means of the IC501B and L605.

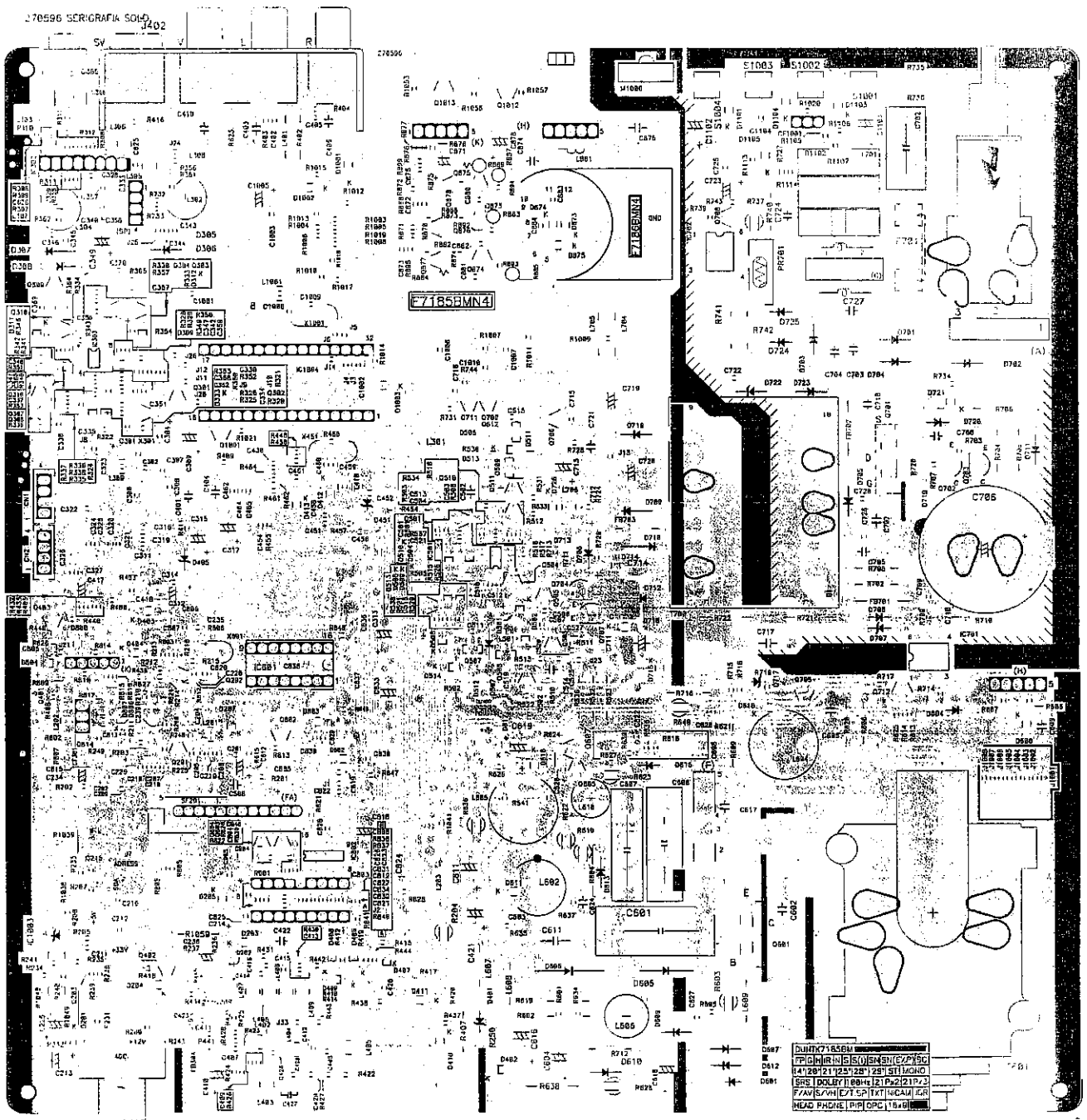
AUDIO POWER AMPLIFIER

The audio amplifier consists of an oscillator whose frequency and duty cycle moves according to the audio signal. This is donde by IC303 and the switching signal is converted back into its original shape by means of L302/L304.

CHASSIS LAYOUT

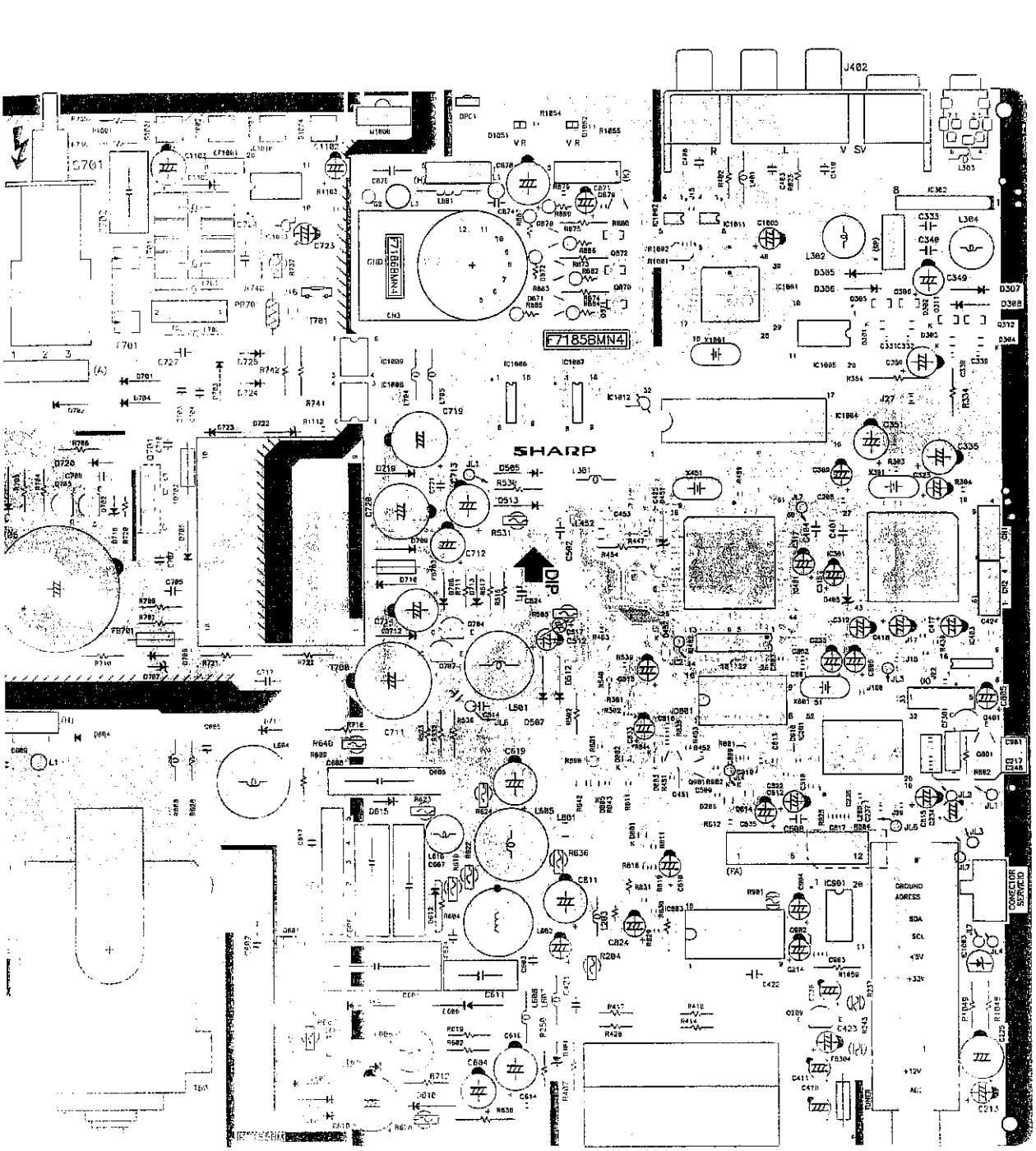


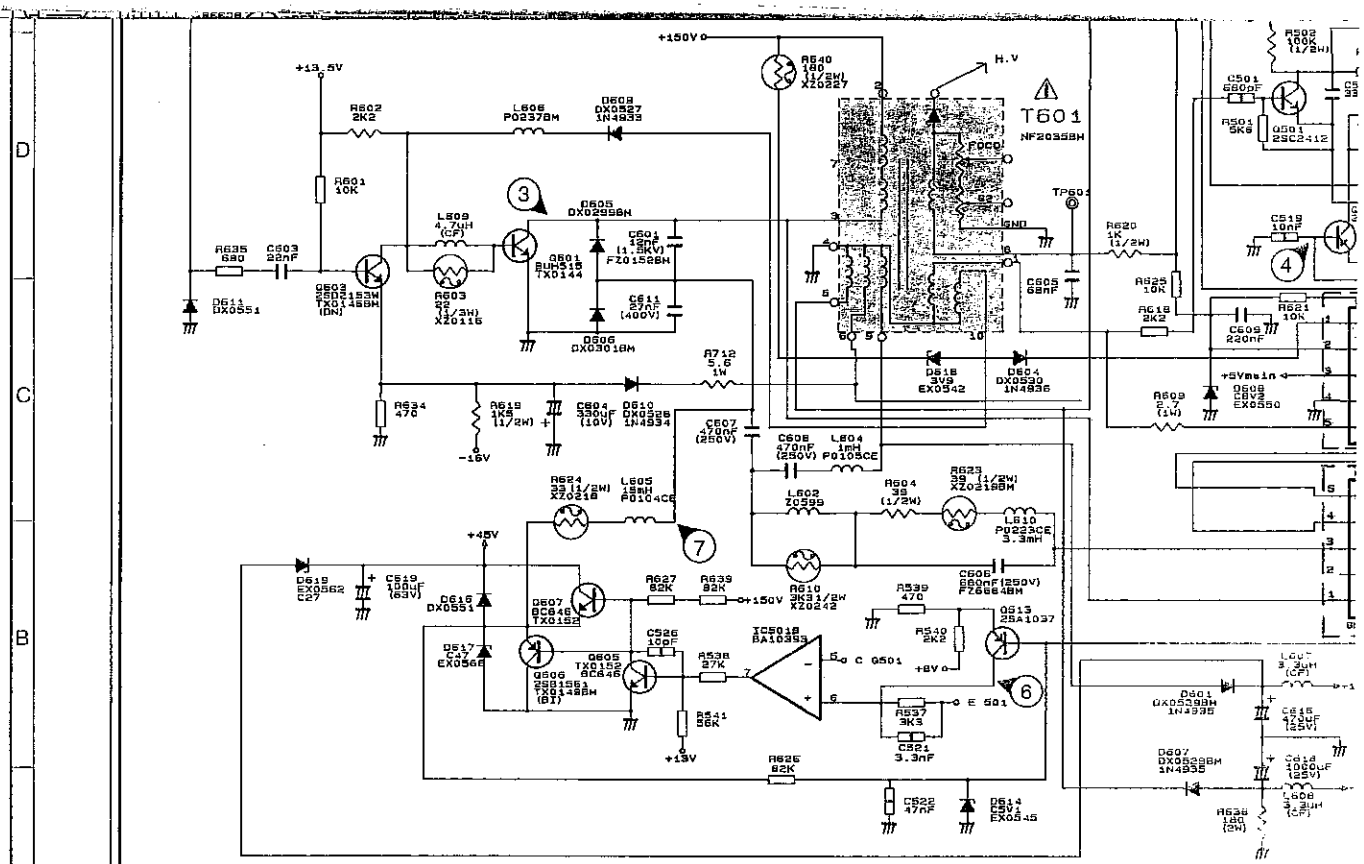
PRINTED WIRING BOARDS



63CS-05S
70CS-05S

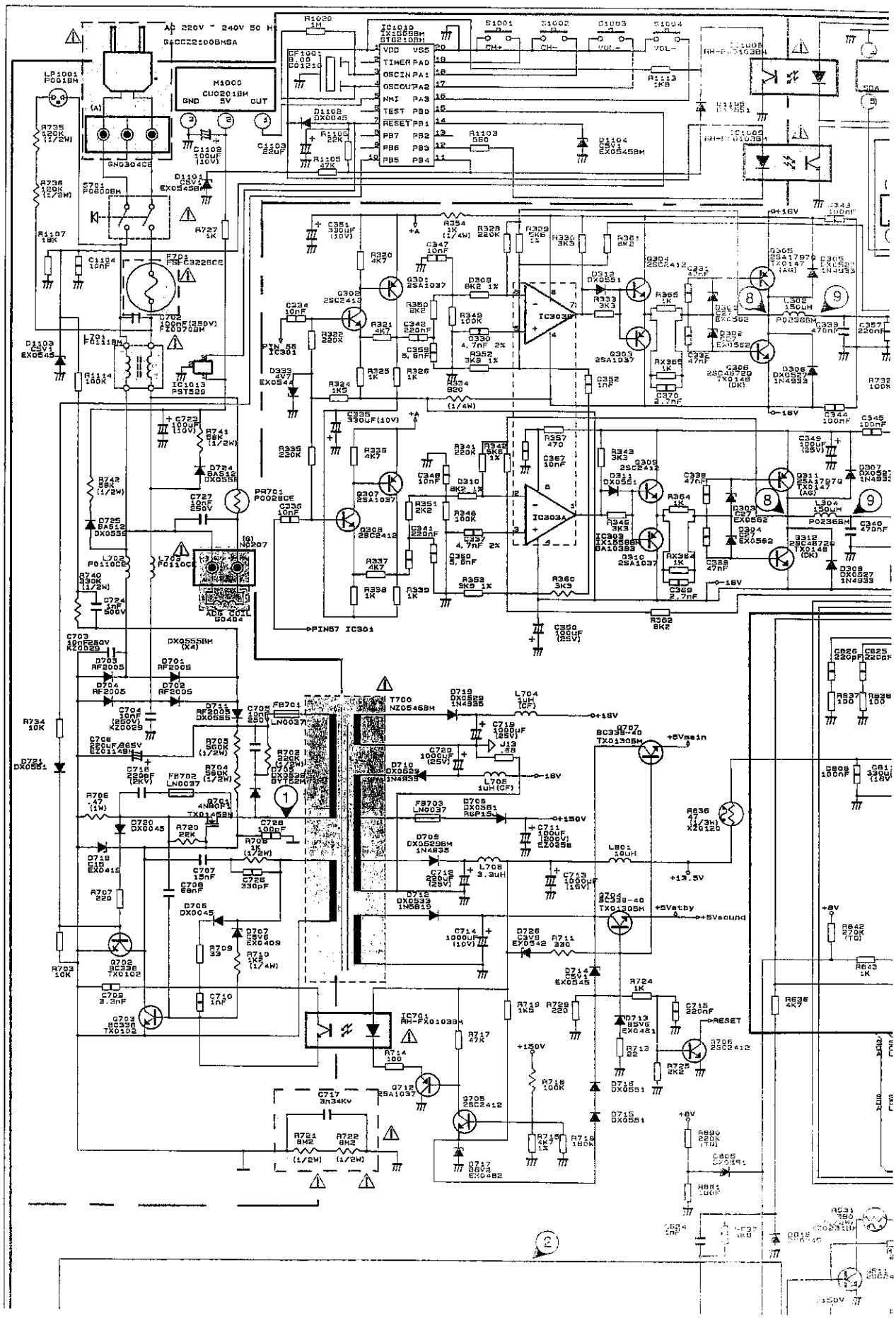
PRINTED WIRING BOARDS

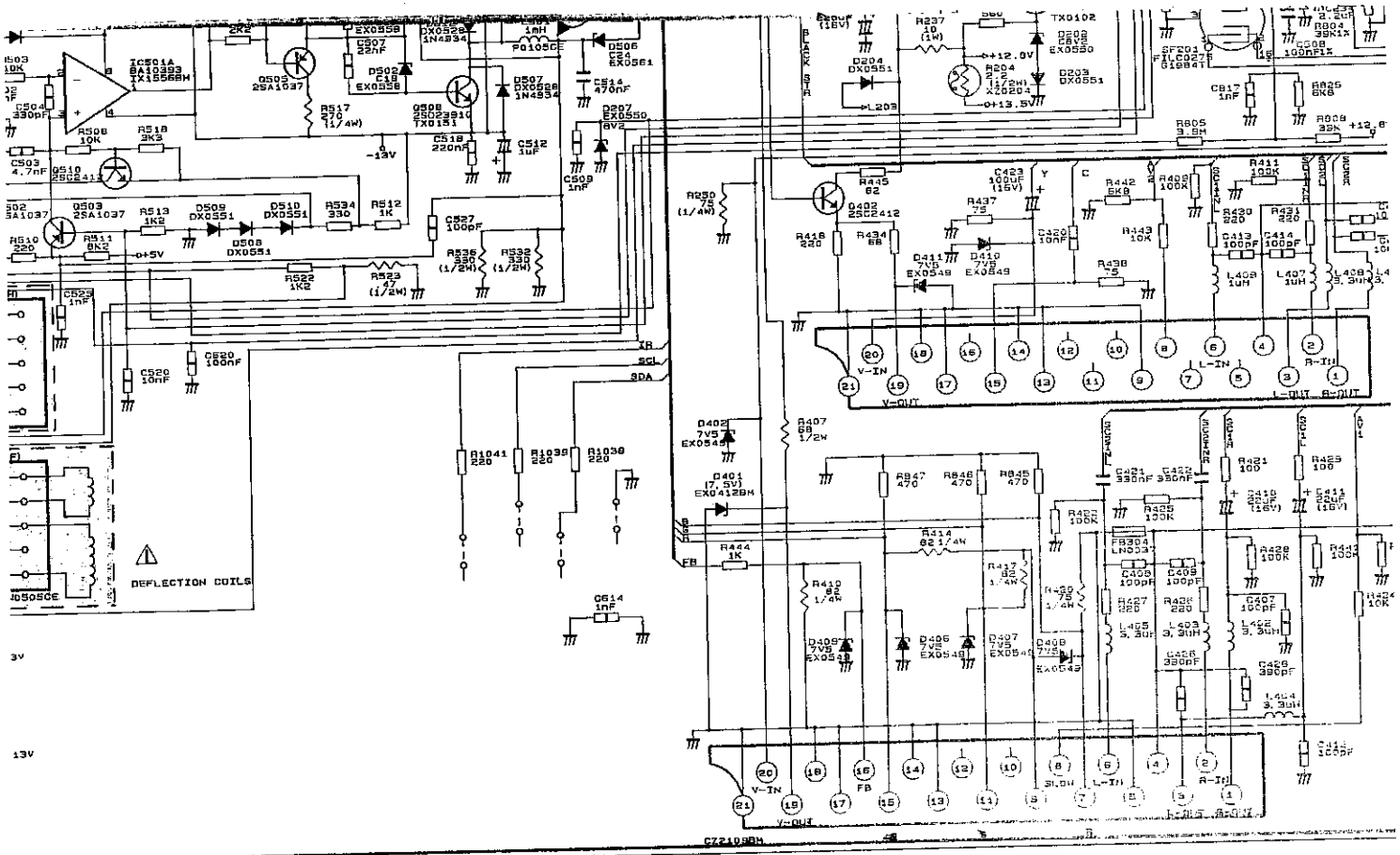



+150V
+13.5V
H.V
T601
NF20358M
R640
180
(1/2W)
XZ0227
R602
2K2
L606
P0237BM
D608
DX0527
1N4933
R601
10K
L603
4.7uH
(CF)
D605
DX0298M
C601
1nF
(1.5KV)
FZ0152BM
C611
27nF
(400V)
D606
DX0301BM
Q603
2SD1163M
TX0116BM
(DN)
R603
22
(1/2W)
XZ0116
Q601
BUH515
TX0144
R635
680
C603
22nF
D611
DX0551
R712
5.6
1W
R634
470
R619
1K5
(1/2W)
C604
330uF
(10V)
D610
DX0328
1N4934
-16V
C607
470nF
(250V)
C608
470nF
(250V)
L604
1mH
P0105CE
R624
33
(1/2W)
XZ0218
L605
15mH
P0104CE
7
L602
Z0599
R604
33
(1/2W)
R623
39
(1/2W)
XZ0219BM
L610
P0223CE
3.3mH
C606
680nF(250V)
FZ0664BM
R610
3K3(2W
XZ0242
+45V
D619
EX0562
C27
C619
100uF
(63V)
D616
DX0551
D607
BC846
TX0152
R627
82K
R639
82K
+150V
R539
470
R540
2K2
Q613
2SA1037
+8V
C526
100P
D617
C47
EX0566
Q606
2SD1561
TX0148BM
(DI)
Q605
TX0152
BC846
R538
27K
R541
56K
+13V
IC5018
BA10393
C Q501
E Q501
6
R537
3K3
C521
3.3nF
R626
82K
C522
47nF
D614
C5V1
EX0545
R620
1K
(1/2W)
R625
10K
R618
2K2
C605
68nF
TP601
GND
C501
680nF
R501
5K6
Q501
2SC2412
C619
10nF
4
R621
10K
C609
220nF
+5Vmain
D618
3V9
EX0542
D604
DX0529
1N4936
R609
2.7
(1W)
D608
C8V2
EX0550
R503
10K
(1/2W)
D601
DX0529BM
1N4935
D607
DX0529BM
1N4935
C618
470uF
(25V)
C619
1000uF
(25V)
L608
3.3uH
(CF)
R638
180
(2W)
A
B
C
D
1
2
3
4
5
6

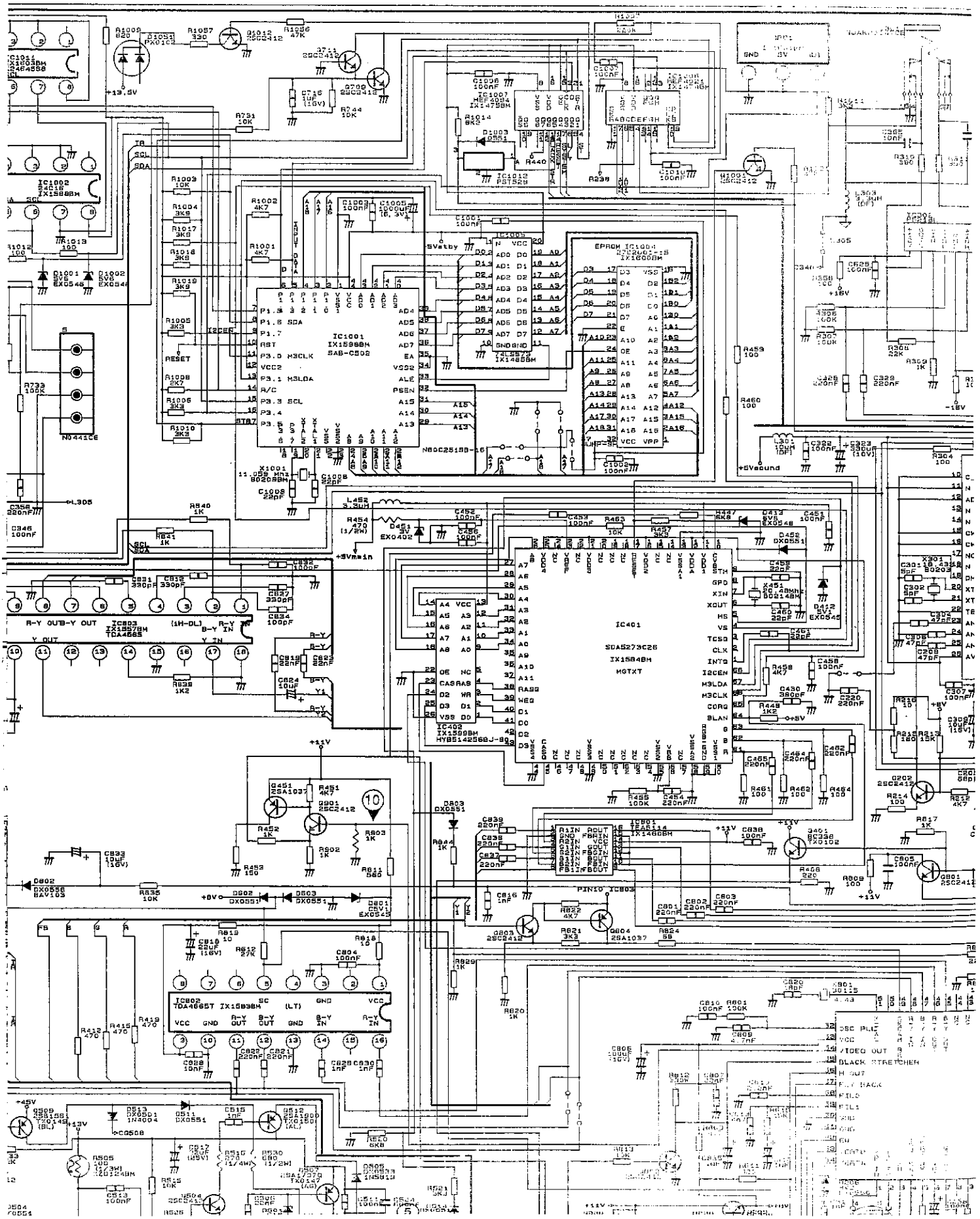
63CS-05S
70CS-05S

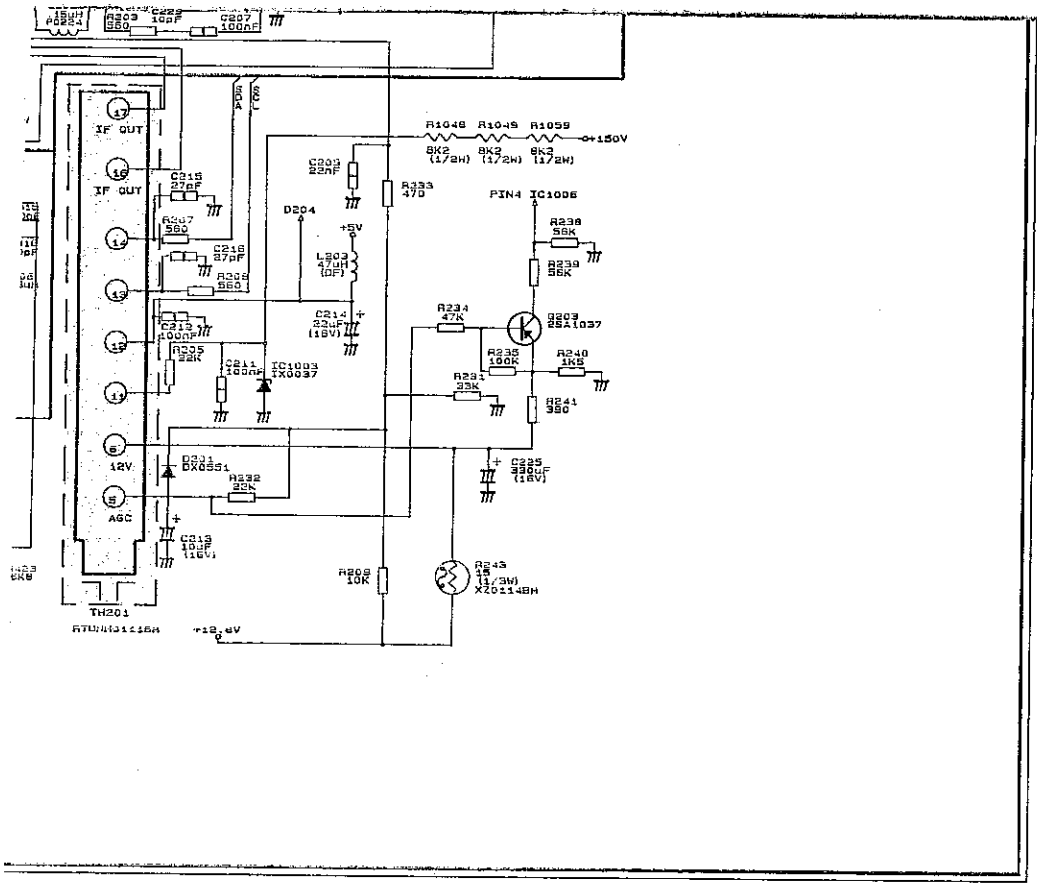
SCHEMATIC DIAGRAM

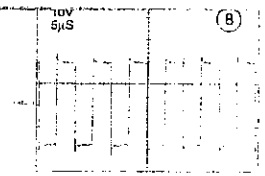


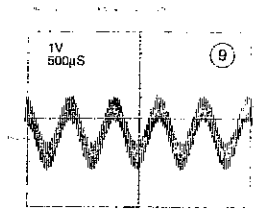


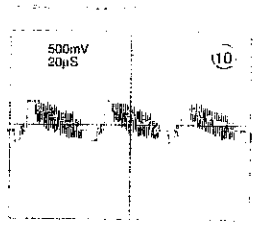
PWB-A / PWB-B





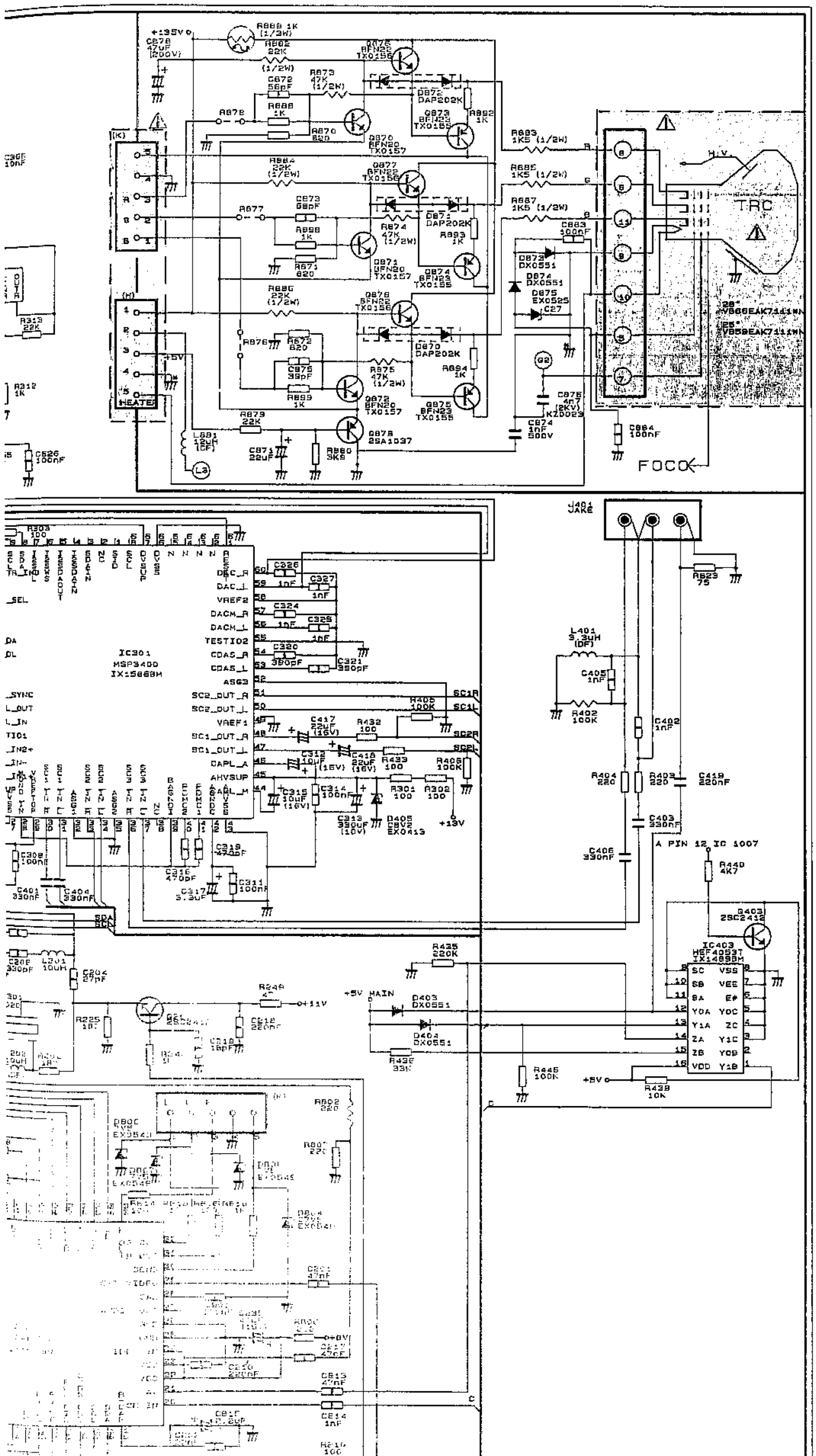






NOTE:

Wave forms are obtained with
a colour bar signal of 79dBµV via antenna.


+135V
C878 47uF (200V)
R889 1K (1/3W)
R882 22K (1/2W)
Q876 BFN22 TX0156
R873 47K (1/2W)
C872 56pF
R888 1K
R878
R870 820
Q870 BFN20 TX0157
D872 DAP202K
Q873 BFN23 TX0155
R892 1K
R883 1K5 (1/2W)
R884 22K (1/2W)
Q877 BFN22 TX0156
R885 1K5 (1/2W)
R877
C873 68pF
R898 1K
R871 820
R874 47K (1/2W)
D871 DAP202K
R893 1K
Q871 BFN20 TX0157
Q874 BFN23 TX0155
R887 1K5 (1/2W)
C883 100nF
D873 DX0551
D874 DX0551
D875 EX0525
C27
R886 22K (1/2W)
Q878 BFN22 TX0156
R876
R872 820
C875 39pF
R899 1K
D870 DAP202K
R875 47K (1/2W)
R894 1K
Q872 BFN20 TX0157
Q875 BFN23 TX0155
G2
C876 4n7 (2KV) KZ0023
C874 1nF 500V
C884 100nF
R879 22K
Q879 2SA1037
L881 12uH (DF)
C871 22uF
R880 3K9
(K)
(H)
HEATER
+5V
H.V.
TRC
28" VB66EAK7111MN
25" VB59EAK7111MN
FOCO
C366 10nF
R313 22K
R312 1K
C526 100nF
R303 100
IC301 MSP3400 IX1566BM
DAC_R
DAC_L
VREF2
DACM_R
DACM_L
TESTIO2
CDAS_R
CDAS_L
ASG3
SC2_OUT_R
SC2_OUT_L
VREF1
SC1_OUT_R
SC1_OUT_L
CAPL_A
AHVSUP
CAPL_M
C326 1nF
C327 1nF
C324 1nF
C325 1nF
C320 390pF
C321 390pF
SC1R
SC1L
SC2R
SC2L
R405 100K
C417 22uF (16V)
R432 100
C312 10uF (16V)
C418 22uF (16V)
R433 100
R406 100K
C315 10uF (16V)
C314 100nF
R301 100
R302 100
C313 330uF (10V)
D405 C8V2 EX0413
+13V
C308 100nF
C316 470pF
C319 470pF
C317 3.3uF
C311 100nF
C401 330nF
C404 330nF
SDA
SCL
J401 JAKE
R823 75
L401 3.3uH (DF)
C405 1nF
R402 100K
C402 1nF
R404 220
R403 220
C419 220nF
C403 330nF
C406 330nF
A PIN 12 IC 1007
R440 4K7
Q403 2SC2412
IC403 HEF4053T IX1489BM
SC
SB
SA
Y0A
Y1A
ZA
ZB
VDD
VSS
VEE
E#
Y0C
ZC
Y1C
Y0B
Y1B
R435 220K
+5V MAIN
D403 DX0551
D404 DX0551
R436 33K
R445 100K
+5V
R438 10K
C206 330pF
L201 10uH
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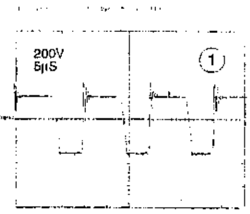
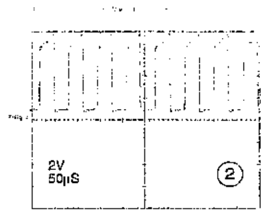
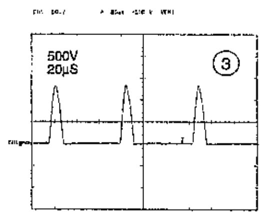
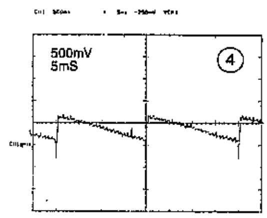
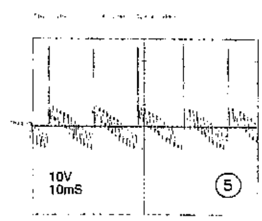
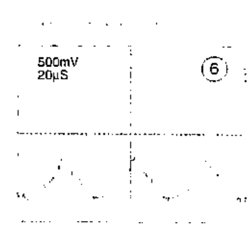
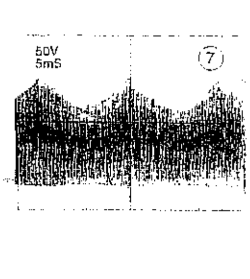
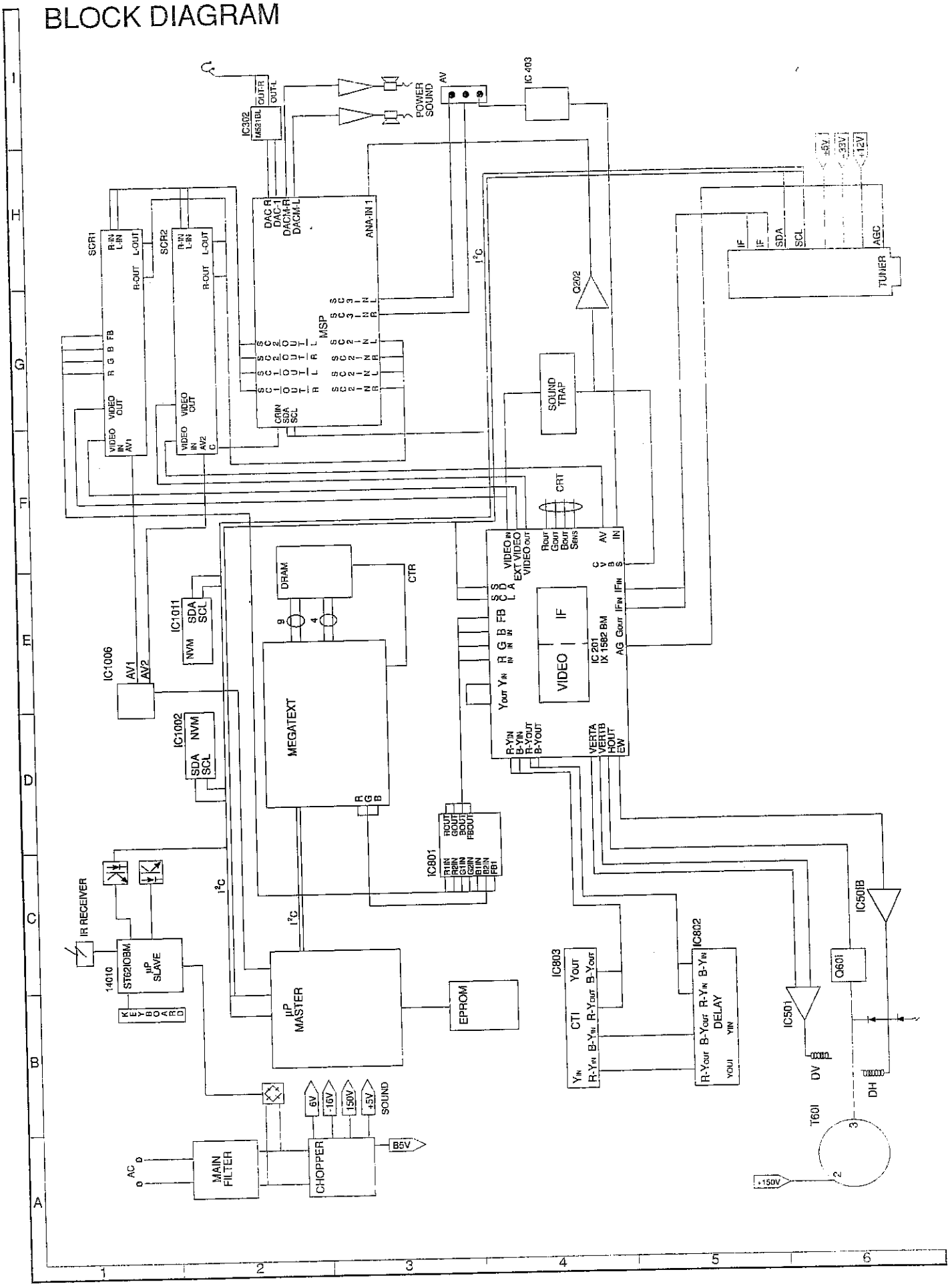
R802 220
C813 47nF
C814 1nF
R816 100
+8V

200V
5µS
1

2V
50µS
2

500V
20µS
3

500mV
5mS
4

10V
10mS
5

500mV
20µS
6

50V
5mS
7

BLOCK DIAGRAM



PARTS LIST

REPLACEMENT PARTS

Replacement parts which have special safety characteristics are identified in this manual. Electrical components having such features are identified by ⚠ in the Replacement Parts list.
The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended is not permitted. Replacement parts not shown in this service manual may create shock, fire or other hazards.

HOW TO ORDER REPLACEMENT PARTS

To have your order completed promptly and correctly please supply the following information.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION
5. CODE
6. QUANTITY

★ MARK: SPARE PARTS DELIVERY SECTION

REF. NO.	PART NO.	★	DESCRIPTION	CODE
PICTURE TUBE				
⚠	CCILG0403BMV0	S	DEGAUSSING COIL 25"	AT
⚠	VB59EAK7111*N	S	CRT 25"	CW
⚠	CCILG0404BMV0	S	DEGAUSSING COIL 28"	AV
⚠	VB66EAK7111*N	S	CRT 28"	CW
PRINTED WIRING BOARD ASSEMBLIES				
	DUNTK7185CJV5	S	Mother Unit 70/63CS05S	CN
	DUNTK7186BMV5	S	Socket Unit 70/63CS05S	BF
PWB-A	**MOTHER UNIT**			
TUNER				
NOTE: The parts shown here are supplied as an assembly but not separately.				
TH 0201	RTUNH0111BMZZ	S	Tuner	BC
INTEGRATED CIRCUITS				
IC 0201	RH-IX1582BMZZ	S	TDA 8375A	BB
IC 0301	RH-IX1586BMZZ	S	MSP3400C-PS-C6	BA
IC 0302	VHIM5218L//-1	S	M5218L	AF
IC 0303	RH-IX1556BMZZ	S	BA10393	AD
IC 0401	RH-IX1584BMZZ	S	MGTEXT SDA5273C26	AN
IC 0402	RH-IX1599BMZZ	S	HYB514256BJ	AY
IC 0403	RH-IX1602BMZZ	S	HEF 4053	AE
IC 0501	RH-IX1556BMZZ	S	BA10393 S0P8	AD
⚠ IC 0701	RH-PC0103BMZZ	S	OPTOCOUPLER MOC8105SR2V	AD
IC 0801	RH-IX1460BMZZ	S	TEA 5114A	AL
IC 0802	RH-IX1583BMZZ	S	TDA 4665T	AM
IC 0803	RH-IX1557BMZZ	S	TDA 4565	AP
IC 1001	RH-IX1598BMZZ	S	SAB-C502	AX
IC 1002	RH-IX1588BMZZ	S	NVM 24C16	AQ
IC 1003	RH-X0057CEZZ	S	UPC574J 33V	AD
IC 1004	C**-**16.00CJSC	S	EPROM 70CS-05S	AZ
IC 1004	C**-**.00CJS*	S	EPROM 63CS-05S	AY
IC 1005	RH-IX1485BMZZ	S	SN74ALS 573	AK
IC 1006	RH-IX1***BMZZ	S	HEF4021BT	AE
IC 1007	RH-IX1***BMZZ	S	HEF4094BT	AE
⚠ IC 1008	RH-PC0108BMZZ	S	MOC8105SR2V	AD
⚠ IC 1009	RH-PC0108BMZZ	S	MOC8105SR2V	AD
IC 1010	RH-IX1559BMZZ	S	ST62T08M	AU
IC 1011	RH-IX1***BMZZ	S	NVM X24645S8	AV
IC 1012	VHIM5229C1	S		AD
IC 1013	VHIM5229C1	S		AD
OPC0001	RH-IX1601BMZZ	S	TSL235	AH

REF. NO.	PART NO.	★	DESCRIPTION	CODE
TRANSISTORS				
Q 0201	VS2SC2412KQ-1	S	2SC2412	AA
Q 0202	VS2SC2412KQ-1	S	2SC2412	AA
Q 0203	VS2SA1037KQ-1	S	BC807	AA
Q 0209	RH-TX0102BMZZ	S	BC338	AB
Q 0301	VS2SA1037KQ-1	S	BC807	AA
Q 0302	VS2SC2412KQ-1	S	2SC2412	AA
Q 0303	VS2SA1037KQ-1	S	BC807	AA
Q 0304	VS2SC2412KQ-1	S	2SC2412	AA
Q 0305	RH-TX0147BMZZ	S	2SA1797T100/Q	AD
Q 0306	RH-TX0148BMZZ	S	2SC4672T100/Q	AD
Q 0307	VS2SA1037KQ-1	S	BC807	AA
Q 0308	VS2SC2412KQ-1	S	2SC2412	AA
Q 0309	VS2SC2412KQ-1	S	2SC2412	AA
Q 0310	VS2SA1037KQ-1	S	BC807	AA
Q 0311	RH-TX0147BMZZ	S	2SA1797T100/Q	AD
Q 0312	RH-TX0148BMZZ	S	2SC4672T100/Q	AD
Q 0401	RH-TX0102BMZZ	S	BC338	AB
Q 0402	VS2SC2412KQ-1	S	2SC2412	AA
Q 0403	VS2SC2412KQ-1	S	2SC2412	AA
Q 0451	VS2SA1037KQ-1	S	BC807	AA
Q 0501	VS2SC2412KQ-1	S	2SC2412	AA
Q 0502	VS2SA1037KQ-1	S	BC807	AA
Q 0503	VS2SA1037KQ-1	S	BC807	AA
Q 0504	VS2SC2412KQ-1	S	2SC2412	AA
Q 0505	VS2SA1037KQ-1	S	BC807	AA
Q 0507	RH-TX0147BMZZ	S	2SA1797T100/Q	AD
Q 0508	RH-TX0151BMZZ	S	2SD2391Q	AD
Q 0509	RH-TX0149BMZZ	S	2SB1561	AD
Q 0510	VS2SC2412KQ-1	S	2SC2412	AA
Q 0511	VS2SC2412KQ-1	S	2SC2412	AA
Q 0512	RH-TX0150BMZZ	S	2SA1900T100/Q	AC
Q 0513	VS2SA1037KQ-1	S	BC807	AA
Q 0601	RH-TX0144BMZZ	S	BUH 515	AK
Q 0603	RH-TX0146BMZZ	S	2SD2153T100/W	AD
Q 0605	RH-TX0152BMZZ	S	BC846BLT1	AA
Q 0606	RH-TX0149BMZZ	S	2SB1561	AD
Q 0607	RH-TX0152BMZZ	S	BC846BLT1	AA
Q 0701	RH-TX0145BMZZ	S	4NA80FI	AM
Q 0702	RH-TX0102BMZZ	S	BC338	AB
Q 0703	RH-TX0102BMZZ	S	BC338	AB
Q 0704	RH-TX0130BMZZ	S	BC338-40	AB
Q 0705	VS2SC2412KQ-1	S	2SC2412	AA
Q 0706	VS2SC2412KQ-1	S	2SC2412	AA
Q 0707	RH-TX0130BMZZ	S	BC338-40	AB
Q 0709	VS2SC2412KQ-1	S	2SC2412	AA
Q 0711	VS2SC2412KQ-1	S	2SC2412	AA
Q 0712	VS2SA1037KQ-1	S	BC807	AA
Q 0801	VS2SC2412KQ-1	S	2SC2412	AA
Q 0802	VS2SC2412KQ-1	S	2SC2412	AA
Q 0803	VS2SC2412KQ-1	S	2SC2412	AA
Q 0804	VS2SA1037KQ-1	S	BC807	AA
Q 0901	VS2SC2412KQ-1	S	2SC2412	AA
Q 1001	VS2SC2412KQ-1	S	2SC2412	AA
Q 1012	VS2SC2412KQ-1	S	2SC2412	AA
DIODES				
D 0201	RH-DX0551BMZZ	S	LL4148	AA
D 0202	RH-EX0550BMZZ	S	Zener 8.2V	AA
D 0203	RH-DX0551BMZZ	S	LL4148	AA
D 0204	RH-DX0551BMZZ	S	LL4148	AA
D 0206	RH-EX0550BMZZ	S	Zener 8.2V	AA
D 0207	RH-EX0550BMZZ	S	Zener 8.2V	AA
D 0301	RH-EX0562BMZZ	S	Zener 27V	AA
D 0302	RH-EX0562BMZZ	S	Zener 27V	AA
D 0303	RH-EX0562BMZZ	S	Zener 27V	AA
D 0304	RH-EX0562BMZZ	S	Zener 27V	AA
D 0305	RH-DX0527BMZZ	S	1N4933	AA
D 0306	RH-DX0527BMZZ	S	1N4933	AA
D 0307	RH-DX0527BMZZ	S	1N4933	AA
D 0308	RH-DX0527BMZZ	S	1N4933	AA
D 0311	RH-DX0551BMZZ	S	LL4148	AA
D 0312	RH-DX0551BMZZ	S	LL4148	AA

REF. NO.	PART NO.	★	DESCRIPTION	CODE
D 0333	RH-EX0544BMZZ	S	Zener 4.7V	AA
D 0401	RH-EX0412BMZZ	S	Zener 7.5V	AB
D 0402	RH-EX0549BMZZ	S	Zener 7.5V	AA
D 0403	RH-DX0551BMZZ	S	LL4148	AA
D 0404	RH-DX0551BMZZ	S	LL4148	AA
D 0405	RH-EX0413BMZZ	S	Zener 8.2V	AB
D 0406	RH-EX0549BMZZ	S	Zener 7.5V	AA
D 0407	RH-EX0549BMZZ	S	Zener 7.5V	AA
D 0408	RH-EX0549BMZZ	S	Zener 7.5V	AA
D 0409	RH-EX0549BMZZ	S	Zener 7.5V	AA
D 0410	RH-EX0549BMZZ	S	Zener 7.5V	AA
D 0411	RH-EX0549BMZZ	S	Zener 7.5V	AA
D 0412	RH-EX0545BMZZ	S	Zener 5.1V	AA
D 0413	RH-EX0548BMZZ	S	Zener 6.8V	AA
D 0451	RH-EX0402BMZZ	S	Zener 3.0V	AB
D 0452	RH-DX0551BMZZ	S	LL4148	AA
D 0501	RH-EX0558BMZZ	S	Zener 18V	AA
D 0502	RH-EX0558BMZZ	S	Zener 18V	AA
D 0504	RH-DX0551BMZZ	S	LL4148	AA
D 0505	RH-DX0533BMZZ	S	1N5819	AD
D 0506	RH-EX0561BMZZ	S	Zener 24V	AA
D 0507	RH-DX0528BMZZ	S	1N4934	AA
D 0508	RH-DX0551BMZZ	S	LL4148	AA
D 0509	RH-DX0551BMZZ	S	LL4148	AA
D 0510	RH-DX0551BMZZ	S	LL4148	AA
D 0511	RH-DX0551BMZZ	S	LL4148	AA
D 0512	RH-DX0528BMZZ	S	1N4934	AA
D 0513	RH-DX0501BMZZ	S	1N4004	AA
D 0514	RH-DX0551BMZZ	S	LL4148	AA
D 0601	RH-DX0529BMZZ	S	1N4935	AB
D 0602	RH-DX0551BMZZ	S	LL4148	AA
D 0603	RH-DX0551BMZZ	S	LL4148	AA
D 0604	RH-DX0530BMZZ	S	1N4936	AA
D 0605	RH-DX0299BMZZ	S	BY228-20	AE
D 0606	RH-DX0301BMZZ	S	BY299	AD
D 0607	RH-DX0529BMZZ	S	1N4935	AB
D 0608	RH-EX0550BMZZ	S	Zener 8.2V	AA
D 0609	RH-DX0527BMZZ	S	1N4933	AA
D 0610	RH-DX0528BMZZ	S	1N4934	AA
D 0611	RH-DX0551BMZZ	S	LL4148	AA
D 0614	RH-EX0545BMZZ	S	Zener 5.1V	AA
D 0615	RH-DX0045BMZZ	S	1N4148	AA
D 0616	RH-DX0551BMZZ	S	LL4148	AA
D 0617	RH-EX0568BMZZ	S	Zener 47V	AA
D 0618	RH-EX0542BMZZ	S	Zener 3.9V	AA
D 0619	RH-EX0562BMZZ	S	Zener 27V	AA
D 0701	RH-DX0555BMZZ	S	RF2005	AB
D 0702	RH-DX0555BMZZ	S	RF2005	AB
D 0703	RH-DX0555BMZZ	S	RF2005	AB
D 0704	RH-DX0555BMZZ	S	RF2005	AB
D 0705	RH-DX0539BMZZ	S	BYT52M	AC
D 0706	RH-DX0045BMZZ	S	1N4148	AA
D 0707	RH-EX0409BMZZ	S	Zener BZX79C5.6V	AA
D 0708	RH-DX0561BMZZ	S	RGP15J	AD
D 0709	RH-DX0529BMZZ	S	1N4935	AB
D 0710	RH-DX0529BMZZ	S	1N4935	AB
D 0711	RH-DX0555BMZZ	S	RF2005	AB
D 0712	RH-DX0533BMZZ	S	1N5819	AD
D 0713	RH-EX0481BMZZ	S	Zener BZX79 5.6V 2%	AB
D 0714	RH-EX0545BMZZ	S	Zener 5.1V	AA
D 0715	RH-DX0551BMZZ	S	LL4148	AA
D 0716	RH-DX0551BMZZ	S	LL4148	AA
D 0717	RH-EX0482BMZZ	S	Zener BZX79 B6.2V	AA
D 0718	RH-EX0519BMZZ	S	Zener BZX79C15V	AB
D 0719	RH-DX0529BMZZ	S	1N4935	AB
D 0720	RH-DX0045BMZZ	S	1N4148	AA
D 0721	RH-DX0551BMZZ	S	LL4148	AA
D 0724	RH-DX0559BMZZ	S	BAS12	AC
D 0725	RH-DX0559BMZZ	S	BAS12	AC
D 0726	RH-EX0542BMZZ	S	Zener 3.9V	AA
D 0801	RH-EX0545BMZZ	S	Zener 5.1V	AA
D 0802	RH-DX0558BMZZ	S	BAV103	AA
D 0803	RH-DX0551BMZZ	S	LL4148	AA
D 0804	RH-EX0549BMZZ	S	Zener 7.5V	AA
D 0805	RH-DX0551BMZZ	S	LL4148	AA
D 0806	RH-EX0549BMZZ	S	Zener 7.5V	AA
D 0807	RH-EX0549BMZZ	S	Zener 7.5V	AA
D 0808	RH-EX0549BMZZ	S	Zener 7.5V	AA
D 1001	RH-EX0546BMZZ	S	Zener 5.6V	AA
D 1002	RH-EX0546BMZZ	S	Zener 5.6V	AA
D 1003	RH-DX0551BMZZ	S	LL4148	AA
D 1051	RH-PX0102BMZZ	S	LED	AC
D 1101	RH-EX0545BMZZ	S	Zener 5.1V	AA
D 1102	RH-DX0045BMZZ	S	1N4148	AA
D 1103	RH-EX0545BMZZ	S	Zener 5.1V	AA
D 1104	RH-EX0545BMZZ	S	Zener 5.1V	AA
D 1105	RH-DX0551BMZZ	S	LL4148	AA

PACKAGED CIRCUIT

X 0301	RCRSB0203BMZZ	S	Crystal 18.432MHz	AG
X 0451	RCRSB0214BMZZ	S	Crystal 20.48MHz	AH
X 0801	RCRSB0115BMZZ	S	Crystal 4.43MHz	AG
X 1001	RCRSB0209BMZZ	S	Crystal 11.0592MHz	AG

COILS

L 0201	VP-NM100KR42N	S	10µH	AC
L 0202	VP-DF120K0000	S	12µH (70CS-05S)	AB
L 0202	VP-NM100KR42N	S	10µH (63CS-05S)	AC
L 0203	VP-DF470K0000	S	47µH	AB
L 0205	RCILP0224BMZZ	S		AE
L 0301	VP-DF100K0000	S	10µH	AB
L 0302	RCILP0236BMZZ	S		AQ
L 0303	VP-DF3R3K0000	S	3,3µH	AB
L 0304	RCILP0236BMZZ	S		AQ
L 0401	VP-DF3R3K0000	S	3,3µH	AB
L 0402	VP-NM3R3MR19N	S	3.3µH	AC
L 0403	VP-NM3R3MR19N	S	3.3µH	AC
L 0404	VP-NM3R3MR19N	S	3.3µH	AC
L 0405	VP-NM3R3MR19N	S	3.3µH	AC
L 0406	VP-NM3R3MR19N	S	3.3µH	AC
L 0407	VP-NM1R0MR10N	S	1µH	AB
L 0408	VP-NM3R3MR19N	S	3.3µH	AC
L 0409	VP-NM1R0MR10N	S	1µH	AB
L 0452	VP-NM3R3MR19N	S	3.3µH	AC
L 0501	RCILP0105CEZZ	S		AG
L 0602	RCILZ0599CEZZ	S	DELAY LINE	AG
L 0604	RCILP0105CEZZ	S		AG
L 0605	RCILP0104CEZZ	S		AG
L 0606	RCILP0237BMZZ	S		AD
L 0607	VP-CF3R3K0000	S	3.3µH	AB
L 0608	VP-CF3R3K0000	S	3.3µH	AB
L 0609	VP-CF4R7K0000	S	4.7µH	AB
L 0610	RCILP0223CEZZ	S	PEAK COIL	AD
⚠ L 0701	RCILF0111BMZZ	S	LINE FILTER	AL
L 0702	RCILP0110CEZZ	S		AD
L 0703	RCILP0110CEZZ	S		AD
L 0704	VP-CF1R0K0000	S	1µH	AB
L 0705	VP-CF1R0K0000	S	1µH	AB
L 0706	VP-NM3R3MR19N	S	3.3µH	AC
L 0801	VP-NM100KR42N	S	10µH	AC

CERAMIC FILTERS

SF 0201	RFILC0275BMZZ	S	SAW FILTER G1984T901	AK

TRANSFORMERS

⚠ T 0601	RTRNF2035BMZZ	S	F.B.T.	BC
⚠ T 0700	RTRNZ0546BMZZ	S	Chopper	AQ

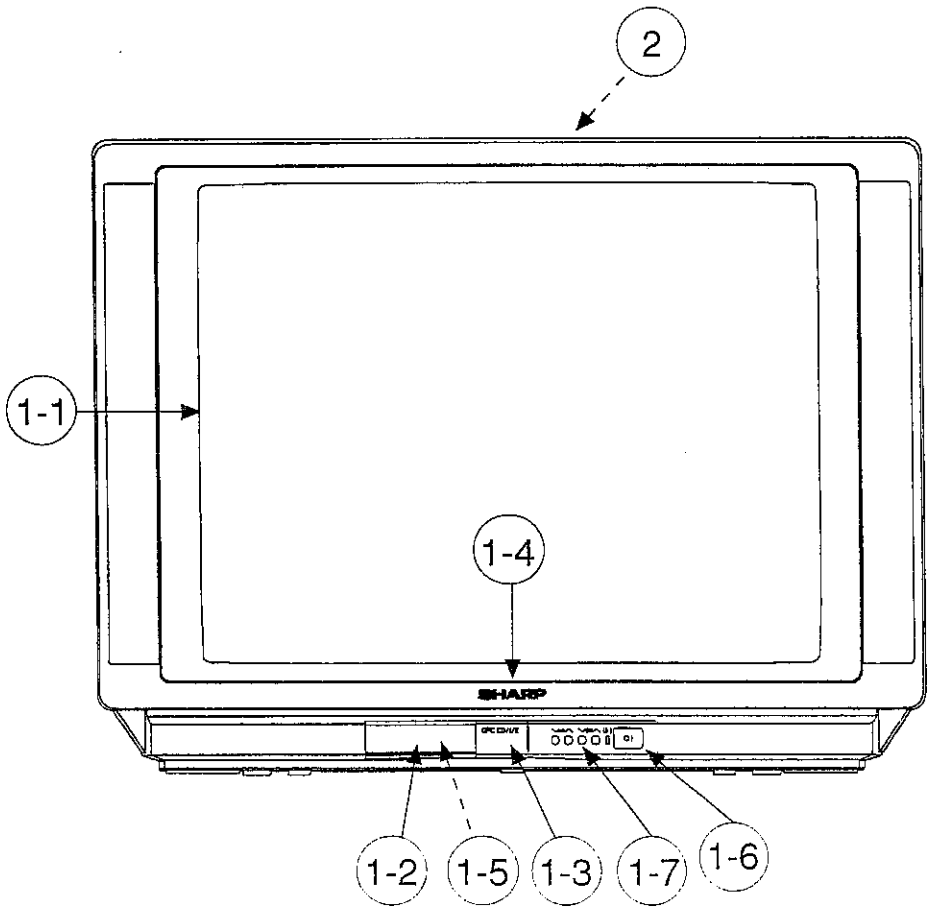
CAPACITORS

C 0225	VCEAGA1CW337M	S	330 16V Electrolityc	AC
C 0236	VCEAGA1CW227M	S	220 16V Electrolityc	AC
C 0237	VCCUTV1HJ6R8C	S	6.8p 50V Ceramic	AA
C 0313	VCEAGA1AW337M	S	330 10V Electrolytic	AB
C 0323	VCEAGA1AW337M	S	330 10V Electrolytic	AB

REF. NO.	PART NO.	*	DESCRIPTION	CODE
C 0333	RC-FZ9474BMNJ	J	0.47 63V Mylar	AD
C 0335	VCEAGA1AW337M	S	330 10V Electrolytic	AB
C 0340	RC-FZ9474BMNJ	J	0.47 63V Mylar	AD
C 0349	VCEAGA1EW107M	S	100 25V Electrolytic	AB
C 0350	VCEAGA1EW107M	S	100 25V Electrolytic	AB
C 0351	VCEAGA1AW337M	S	330 10V Electrolytic	AB
C 0401	RC-FZ9334BMNJ	J	0.33 63V Mylar	AC
C 0403	RC-FZ9334BMNJ	J	0.33 63V Mylar	AC
C 0404	RC-FZ9334BMNJ	J	0.33 63V Mylar	AC
C 0406	RC-FZ9334BMNJ	J	0.33 63V Mylar	AC
C 0419	RC-FZ9224BMNJ	J	0.22 63V Mylar	AC
C 0421	RC-FZ9334BMNJ	J	0.33 63V Mylar	AC
C 0422	RC-FZ9334BMNJ	J	0.33 63V Mylar	AC
C 0423	VCEAGA1CW107M	S	100 16V Electrolytic	AB
C 0502	RC-FZ9333BMNJ	J	0.22 63V Mylar	AB
C 0508	RC-FZ9104BMNJ	J	0.1 63V Mylar	AB
C 0514	RC-FZ9474BMNJ	J	0.47 63V Mylar	AD
C 0524	RC-FZ9684BMNJ	J	0.68 63V Mylar	AD
C 0601	RC-FZ0152BMZZ	S	0.012 1.5KV Mylar	AE
C 0603	RC-FZ9223BMNJ	J	0.022 63V Mylar	AB
C 0604	VCEAGA1AW337M	S	330 10V Electrolytic	AB
C 0605	RC-FZ9683BMNJ	J	0.068 63V Mylar	AB
C 0606	RC-FZ6684BMNJ	J	0.68 250V Mylar	AE
C 0607	RC-FZ6474BMNJ	J	0.47 250V Mylar	AE
C 0608	RC-FZ6474BMNJ	J	0.47 250V Mylar	AE
C 0609	RC-FZ9224BMNJ	J	0.022 63V Mylar	AC
C 0611	VCQPSC2GA273K	J	0.027 400V Ceramic	AB
C 0616	VCEAGA1EW477M	S	470 25V Electrolytic	AD
C 0618	VCEAGA1EW108M	S	1000 25V Electrolytic	AD
C 0619	VCEAGA1JW107M	S	100 63V Electrolytic	AC
C 0702	RC-FZ0070BMZZ	S	0.1 250V Mylar	AD
C 0703	RC-KZ0029CEZZ	S	0.01 250V Ceramic	AC
C 0704	RC-KZ0029CEZZ	S	0.01 250V Ceramic	AC
C 0705	RC-KZ0029CEZZ	S	0.01 250V Ceramic	AC
C 0706	RC-EZ0114BMZZ	S	220 385V Electrolytic	AS
C 0707	RC-FZ9153BMNJ	J	0.015 63V Mylar	AB
C 0708	RC-FZ9683BMNJ	J	0.068 63V Mylar	AB
C 0711	RC-EZ0258CEZZ	S	100 200V Electrolytic	AH
C 0712	VCEAGA1EW227M	S	220 25V Electrolytic	AC
C 0713	VCEAGA1CW108M	S	1000 16V Electrolytic	AD
C 0714	VCEAGA1AW108M	S	1000 10V Electrolytic	AC
⚠ C 0717	RC-KZ0156CEZZ	S	3300p 4kV Ceramic	AD
C 0718	RC-KZ0035CEZZ	S	220p 2kV Ceramic	AC
C 0719	VCEAGA1EW108M	S	1000 25V Electrolytic	AD
C 0720	VCEAGA1EW108M	S	1000 25V Electrolytic	AD
C 0723	VCEAGA1AW107M	S	100 10V Electrolytic	AA
C 0724	VCKYPA2HB102K	S	1000p 500V Ceramic	AA
C 0727	RC-KZ0029CEZZ	S	0.01 250V Ceramic	AC
C 0805	RC-FZ9104BMNJ	J	0.1 63V Mylar	AB
C 0806	VCEAGA1CW107M	S	100 16V Electrolytic	AB
C 0811	VCEAGA1CW337M	S	330 16V Electrolytic	AC
C 1005	VCEAGA0JW108M	S	1000 6,3V Electrolytic	AB
C 1102	VCEAGA1AW107M	S	100 10V Electrolytic	AA
	RESISTORS			
R 0204	RR-XZ0204BMZZ	S	2.2 1/2W Fuse Resistor	AB
R 0237	VRS-PU3AB100J	S	10 1W Metal Oxide	AA
R 0243	RR-XZ0114BMZZ	S	15 1/3W Fuse Resistor	AB
R 0364	VRS-TQ2BD102J	S	1K 1/8W Metal Oxide	AA
R 0365	VRS-TQ2BD102J	S	1K 1/8W Metal Oxide	AA
R 0505	RR-XZ0124BMZZ	S	100 1/3W Fuse Resistor	AA
R 0531	RR-XZ0231BMZZ	S	390 1/2W Fuse Resistor	AB
R 0603	RR-XZ0116BMZZ	S	22 1/3W Fuse Resistor	AB
R 0609	VRN-VV3AB2R7J	S	2.7 1W Metal Film	AA
R 0610	RR-XZ0242BMZZ	S	3.3K 1/2W Fuse Resistor	AB
R 0623	RR-XZ0219BMZZ	S	39 1/2W Fuse Resistor	AB
R 0624	RR-XZ0218BMZZ	S	33 1/2W Fuse Resistor	AB
R 0638	VRS-VV3DB181J	S	180 2W Metal Oxide	AA
R 0640	RR-XZ0227BMZZ	S	180 1/2W Fuse Resistor	AB
R 0706	VRN-VV3ABR47J	S	0.47 1W Metal Film	AA
R 0712	VRN-VV3AB5R6J	S	5.6 1W Metal Film	AA
⚠ R 0721	VRC-UA2HG825K	S	8.2M 1/2W Solid	AA
⚠ R 0722	VRC-UA2HG825K	S	8.2M 1/2W Solid	AA
R 0836	RR-XZ0120BMZZ	S	47 1/3W Fuse Resistor	AB
R 0842	VRS-TQ2BD274J	S	270K 1/8W Metal Oxide	AA

REF. NO.	PART NO.	*	DESCRIPTION	CODE
R 0890	VRS-TQ2BD224J	S	220K 1/8W Metal Oxide	AA
RX 364	VRS-TQ2BD102J	S	1K 1/8W Metal Oxide	AA
RX 365	VRS-TQ2BD102J	S	1K 1/8W Metal Oxide	AA
	MISCELLANEOUS PARTS			
	QSOCN0502CEZZ	S	Socket	AC
	QSOCN0660BMZZ	S	Socket	AD
	QTIPM0008CEZZ	S	Socket	AA
PR 0701	RMPTP0028CEZZ	S	PTC	AG
	QFSHD1009CEZZ	S	Fuse Holder	AA
	QFSHD1010CEZZ	S	Fuse Holder	AB
	QJAKZ0101BMZZ	S	Jack Connector	AK
	QPLGN0165BMZZ	S	Connector	AB
	QSOCZ2051SC32	S	IC Socket 32 PIN	AC
	QSOCZ2109BMZZ	S	RGB Connector (X2)	AK
	RRMCU0201BMZZ	S	Remote Control Receiver	AN
(A)0000	QPLGN0304CEZZ	S	Connector	AB
⚠(F)0000	QPLGN0505CEZZ	S	Connector	AB
⚠(G)	QPLGN0207CEZZ	S	Connector	AA
(S)0000	QPLGN0441CEZZ	S	Connector	AB
⚠ F 0701	QFS-C3226CEZZ	S	Fuse 3.15A 250V	AE
FB 0304	RBLN-0037CEZZ	S	Ferrite Bead	AB
FB 0701	RBLN-0037CEZZ	S	Ferrite Bead	AB
FB 0702	RBLN-0037CEZZ	S	Ferrite Bead	AB
FB 0703	RBLN-0037CEZZ	S	Ferrite Bead	AB
J 0301	QJAKJ0047CEZZ	S	Earphone Jack	AG
⚠ S 0701	QSW-P0600BMZZ	S	Power Switch	AL
S 1001	QSW-K0079GEZZ	S	Push Button (CH+)	AB
S 1002	QSW-K0079GEZZ	S	Push Button (CH-)	AB
S 1003	QSW-K0079GEZZ	S	Push Button (VOL+)	AB
S 1004	QSW-K0079GEZZ	S	Push Button (VOL-)	AB
PWB-B	**CRT SOCKET UNIT**			
	TRANSISTORS			
Q 0870	RH-TX0157BMZZ	S	BFN20	AD
Q 0871	RH-TX0157BMZZ	S	BFN20	AD
Q 0872	RH-TX0157BMZZ	S	BFN20	AD
Q 0873	RH-RX0155BMZZ	S	BFN23	AB
Q 0874	RH-TX0155BMZZ	S	BFN23	AB
Q 0875	RH-TX0155BMZZ	S	BFN23	AB
Q 0876	RH-TX0156BMZZ	S	BFN22	AB
Q 0877	RH-TX0156BMZZ	S	BFN22	AB
Q 0878	RH-TX0156BMZZ	S	BFN22	AB
Q 0879	VS2SA1037KQ-1	S	BC807	AA
	DIODES			
D 0870	VHDDAP202K/-1	S	DAP202K	AB
D 0871	VHDDAP202K/-1	S	DAP202K	AB
D 0872	VHDDAP202K/-1	S	DAP202K	AB
D 0873	RH-DX0551BMZZ	S	LL4148	AA
D 0874	RH-DX0551BMZZ	S	LL4148	AA
D 0875	RH-EX0562BMZZ	S	Zener 27V	AA
	COILS			
L 0881	VP-CF120K0000	S	12µH	AC
	CAPACITORS			
C 0874	VCKYPA2HB102K	S	1000P 500V Ceramic	AA
C 0876	RC-KZ0023CEZZ	S	4700p 2KV Ceramic	AD
C 0878	VCEAGA2DW476	S	47 200V Electrolytic	AE
	RESISTORS			
R 0889	RR-XZ0136BMZZ	S	1K 1/3W Fuse Resistor	AA

REF. NO.	PART NO.	★	DESCRIPTION	CODE
	MISCELLANEOUS PARTS			
⚠	QSOCV0103BMZZ	S	CRT Socket	AH
	MISCELLANEOUS PARTS			
	VSPRA09PB018B	S	Speaker 8Ω 10W	AW
	QACCZ2100BMSA	S	AC Cord	AR
	TINS-6384BMN0	S	Operation Manual	AS
	RRMCG1023BMSA	S	Remote Control Unit	BB
	CABINET PARTS			
1-1	CCABA1134BMV0	S	Front Cabinet 63CS-05S	BL
1-1	CCABA1126BMV0	S	Front Cabinet 70CS-05S	BL
1-2	GDORF1045BMSB	S	Door	AE
1-3	GMADT1066BMSA	S	Window	AG
1-4	HBDGB3013MESA	S	Badge SHARP	AG
1-5	HINDP5077BMSA	S	Indicator	AE
1-6	JBTN-1029BMSB	S	Button Power	AC
1-7	JBTN-1028BMSB	S	Button Up-Down	AC
2	CCABB1046BMV0	S	Rear Cabinet 63CS-05S	BC
2	CCABB1045BMV0	S	Rear Cabinet 70CS-05S	BD



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